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10.11.2018
HW 2.4 - Principles of Reliable Data Transfer

R11. Suppose that the roundtrip delay between sender and receiver is constant and known to the sender. Would a timer still be necessary in protocol rdt 3.0, assuming that packets can be lost? Explain

- Yes
- A timer is still needed to detect packet loss

R12. Visit the Go-Back-N Java applet at the companion site

  a. Have the source send five packets, and then pause the animation before any of the five packets reach the destination. Then kill the first packet and resume the animation. Describe what happens.
     - Four other packets are received, but interpreted as out of order and are not acknowledged.
  b. Repeat the experiment, but now let the first packet reach the destination and kill the first acknowledgment. Describe again what happens.
     - The other ACKs made it
  c. Finally, try sending six packets. What happens?
     - Not possible until last ACK is received

R13. How does this experiment differ when conducted with the Selective Repeat applet?

     - Packets can be selectively acknowledged if received out of order

P22.

  a.
       1. [k – 4, k]
          - If no ack received by sender, window is [k -4, k -1]
          - If all acks received, window is [k, k + 3]
          - So sequence starts in [k-4, k] and is of size 4

P24.

     a) True: If the window has already advanced before receiving its acks
     b) True: Same deal as SR
     c) True: If window are just size 1, packets can't be out of order
     d) True: See above